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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,340	10/05/2004	Yukihiko Taguchi	018842.1318	8369

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EXAMINER

HAMO, PATRICK

ART UNIT	PAPER NUMBER
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3746

NOTIFICATION DATE	DELIVERY MODE
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02/08/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/510,340	Applicant(s) TAGUCHI, YUKIHIKO	
	Examiner PATRICK HAMO	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to communications filed on December 31, 2007.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al., US 5,588,807.

In regard to claim 1:

Kimura '807 discloses **a variable displacement compressor having a discharge chamber (4b), a suction chamber (4a) and a crank chamber (2a), said compressor comprising a displacement control valve (25) disposed at a position in a discharge pressure supply passageway (23A, 24, see figs. 1, 3) capable of communicating with said crank chamber from said discharge chamber (via control valve 25), and a fixed orifice (O) disposed at a position in a pressure relief passageway (23B, 24, again in figs. 1, 3) communicating with said suction chamber from said crank chamber (via orifice O), said displacement control valve being controlled in opening/closing operation to adjust a pressure in said crank chamber to control a piston stroke (col. 2, lines 1-14), wherein a part of said**

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discharge pressure supply passageway and a part of said pressure relief passageway are formed as a common passageway (24) communicating with an end of said crank chamber.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Fukanuma et al., US 6,149,398.

Kimura discloses all of the limitations of claim 1 from which claims 2 and 3 depend substantially as claimed. However, Kimura does not disclose that a part of the common passageway is formed as a passageway through a bearing for a compressor main shaft or that the common passageway includes a gas chamber formed at a shaft end extended portion of a compressor main shaft.

Fukanuma teaches a variable displacement swash plate compressor substantially similar to that of Kimura where the compressor main shaft (20) includes bearings (7b) lubricated by gas carrying lubricating oil that passes through a passageway passing through the bearings that is upstream of a gas chamber (central

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bore 36) formed at the end of the shaft, the passageway passing through the bearings connected to the compressor gas circuit via orifice (45), chamber (36) and discharge supply (47). It would have been obvious to a person having ordinary skill in the art to have modified the common passageway (24) of Kimura to have passed through the bearings of Kimura's compressor shaft as taught by Fukanuma to lubricate the bearings with oil carried by the compressor gas. In Kimura, it is the common passageway (24) that extends out of the end block containing the discharge and suction chambers, so that it would have been obvious to use this passageway to lubricate the bearings rather than the branched passageways (23A and B) that are not located in the main cylinder portion.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Itoigawa et al., US 4,932,843.

Kimura discloses all of the limitations of claim 1 from which claim 4 depends substantially as claimed. However, Kimura does not teach that the fixed orifice is formed in the displacement control valve.

Itoigawa teaches a variable displacement swash plate compressor substantially similar to that of Kimura where an orifice (99) for the restriction of flow is formed in a control valve (fig. 9) for controlling the angle of the swash plate and the varied displacement of the compressor. It would have been obvious to a person having ordinary skill in the art that in view of the reference to Itoigawa, it would have been a matter of engineering design choice and rearrangement of parts to place the

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passageway and orifice of Kimura within the control valve instead of just outside of the control valve.

Response to Arguments

Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection. In regard to claim 1, the examiner agrees with applicant's argument that the embodiment of fig. 5 of Kimura '807 previously relied upon does not anticipate the claimed invention. However, as discussed and relied upon above, the embodiment of figs. 1 and 3 does, including the orifice being provided in the pressure relief passageway communicating the suction chamber and crank chamber, as argued by the applicant.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK HAMO whose telephone number is (571)272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/Patrick Hamo/
Patent Examiner, AU 3746